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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,316	03/12/2004	Nikos P. Pitsianis	800.0117	8198
73846	7550	06/18/2008	EXAMINER	
Peter H. Priest			MAL TAN V	
5015 Southpark Drive, Suite 230			ART UNIT	
Durham, NC 27713			PAPER NUMBER	
			2193	
			MAIL DATE	
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			06/18/2008	
			PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/799,316

**Applicant(s)**

PITSIANIS ET AL.

**Examiner**

Tan V. Mai

**Art Unit**

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/CB/CIC)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1-14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Rejection grounds continue to be those set forth in the previous office action (Paper dated 11/23/07, paragraph 3).

3. Applicants' arguments filed on 3/18/08 have been fully considered but they are not persuasive.

Applicants, in their remarks, argue that:

"[c]laim 1 has been amended to claim 'computing the recurrence relation using the combined  $x^m$  polynomial coefficient terms in the single function  $GF(2^m)$  multiplication operation to produce a  $GF(2^m)$  result; and storing the  $GF(2^m)$  result in memory in a computer readable form". Emphasis added. Claim 4 has been amended to claim "computing the recurrence relation using the combined  $x^m$  polynomial coefficient terms in the single function -  $GF(2^m)$  multiplication operation thereby calculating m by m bits for the  $GF(2^m)$  multiplication function to produce an m bit  $GF(2^m)$  result; and storing the m bit  $GF(2^m)$  result in memory in a computer readable form". Emphasis added. Claim 7 has been amended to claim "a logic device producing  $A \oplus B \oplus X \oplus Y(i-1) \oplus 1$  as result  $Y(i)$  to be utilized in one or more GF multiplication circuit cells or stored in a processor accessible storage unit". Emphasis added. Claims 1, 4, and 7 as amended claim a concrete, useful, and tangible result."

With respect to the arguments, the examiner carefully reviews Applicant's specification and claimed invention. It is noted that applicants haven't pointed out how/why the claim recite "statutory subject matter", i.e., produces a **useful, concrete, and tangible result**. If the claim as a whole is reasonably interpreted as just solving a mathematical algorithm rather than reciting a **practical application** of the algorithm

which produces a useful, concrete and tangible result, then it would be non-statutory. In order for claims to be statutory, claims must include a practical application with a concrete, useful, and tangible result. However, claims 1-14 merely disclose elements for performing mathematical function without disclosing a **practical application with a concrete, useful, and tangible result, as they are pre-emptive in any application**. It is noted that final step is merely "store" the "final result". The result produced by claimed invention is merely number. It does not have a real world value since the claimed invention is not for any practical application, and thus is not useful. Therefore, claims 1-14 are directed to non-statutory subject matter.

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the

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examiner should be directed to Tan V. Mai whose telephone number is (571) 272-3726.

The examiner can normally be reached on Mon-Wed from 9:30am to 2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis Bullock, can be reached on (571) 272-3759. The fax phone number for the organization where this application or proceeding is assigned is:

Official (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.

/Tan V Mai/  
Primary Examiner, Art Unit 2193